

... reaction. C. G. Ballefantine, Obi-

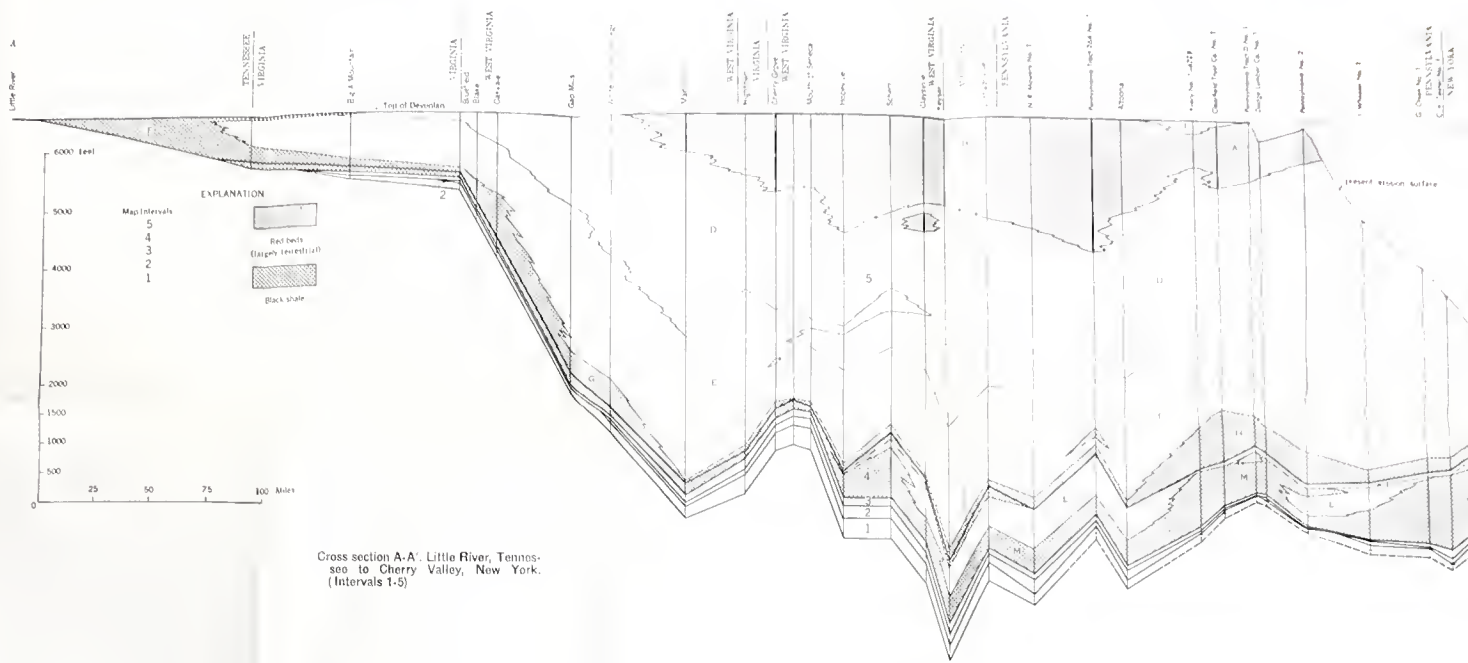
Although trilobites are not shown on the total Devonian map (1) it is important to note that the carbonate facies that predominate in the lower and middle Devonian is the chert that characterizes the upper Middle and Upper Devonian (plates 3 & 4). Limestone and dolomite form less than five percent of the total rock mass. The cross section shows the shape of the basin along its southeast-southwest axis and across the axis. They also show the relative thicknesses of the five map units.

SOURCES OF DATA

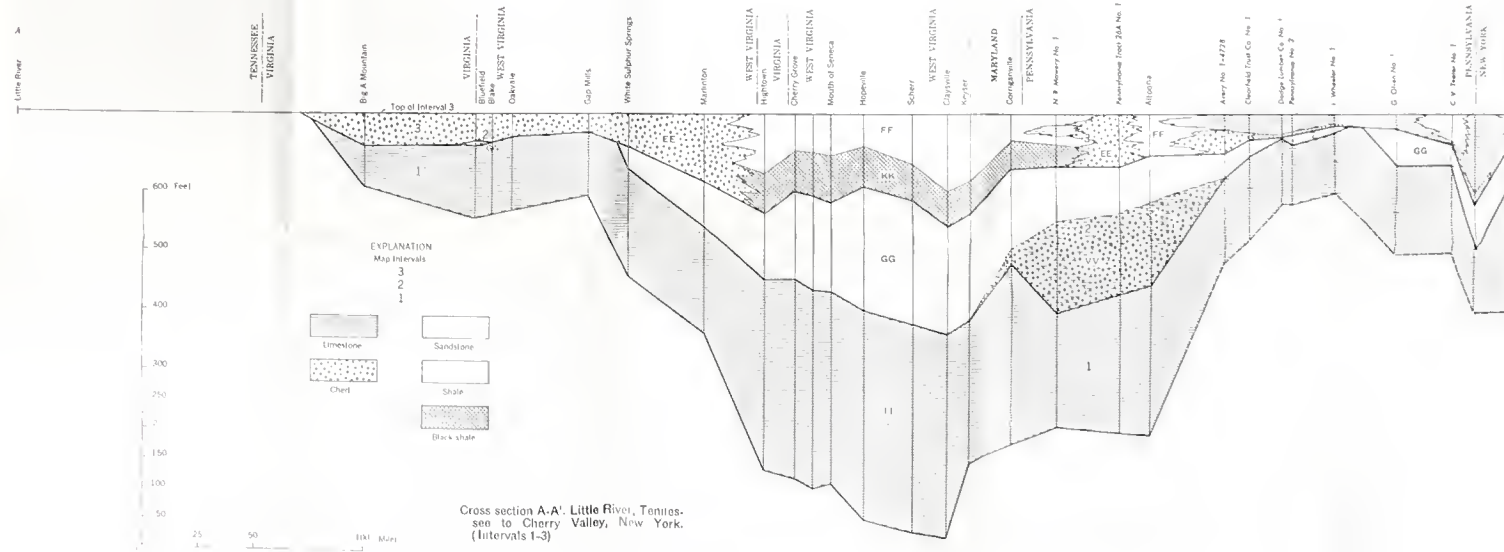
Data for the map were compiled from both published and unpublished sources (see the authors, and are acknowledged in the plate explanations). Published sources are not mentioned but are listed in Oliver and others (1955) under "Sources of data" and in the "References cited."

REFERENCES CITED

Beckwith, A. J. (1935), *Geology of the Lower Devonian rocks of Highland Falls, New York*, Jour. Paleontology, v. 9, p. 227-260.  
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— (1942), *Stratigraphy of the Hamilton Group in New York*, U.S. Geol. Surv. Prof. Paper 345, p. 1-200.  
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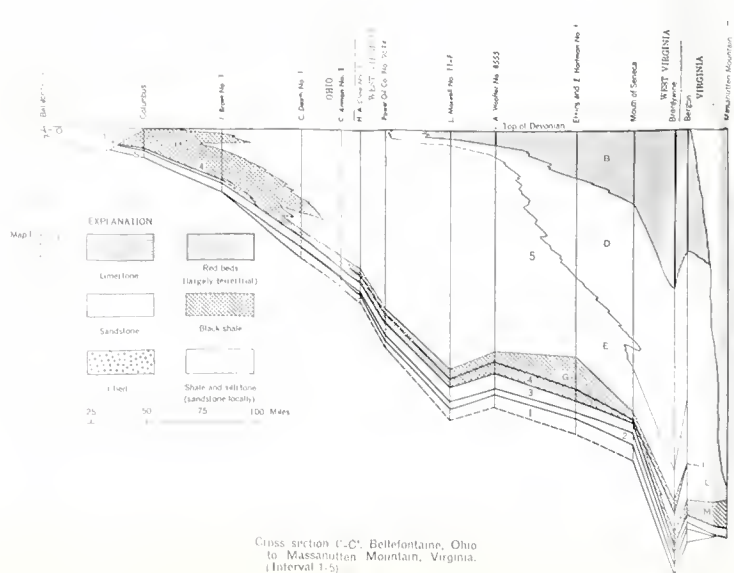
Cross section A-A', Little River, Tennessee to Cherry Valley, New York.  
(Intervals 1-5)



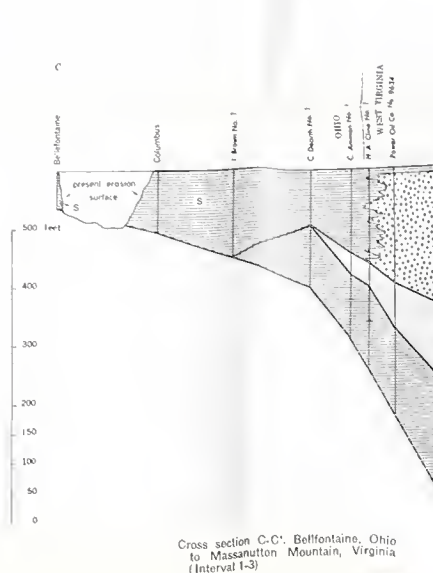
Cross section A-A', Little River, Tennessee to Cherry Valley, New York.  
(Intervals 1-3)

KEY TO UNITS SHOWN ON THE GEOLOGIC CROSS SECTIONS

- See also "Section of lines of section"
- A Catskill Formation (red beds, shale, siltstone, and sandstone)
  - B Hamilton Formation (red beds as above)
  - C Onondaga Formation (gray shale, siltstone, and sandstone)
  - D "Chemung" Formation (shale, siltstone, and sandstone)
  - E Bluffton Formation (gray shale and siltstone)
  - F Chazy Formation (shale, siltstone, and sandstone)
  - G Onondaga Shale
  - H Onondaga Shale
  - I Onondaga Shale
  - J Onondaga Shale
  - K Onondaga Shale
  - L Onondaga Shale
  - M Onondaga Shale
  - N Onondaga Shale
  - O Onondaga Shale
  - P Onondaga Shale
  - Q Onondaga Shale
  - R Onondaga Shale
  - S Onondaga Shale
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  - Y Onondaga Shale
  - Z Onondaga Shale

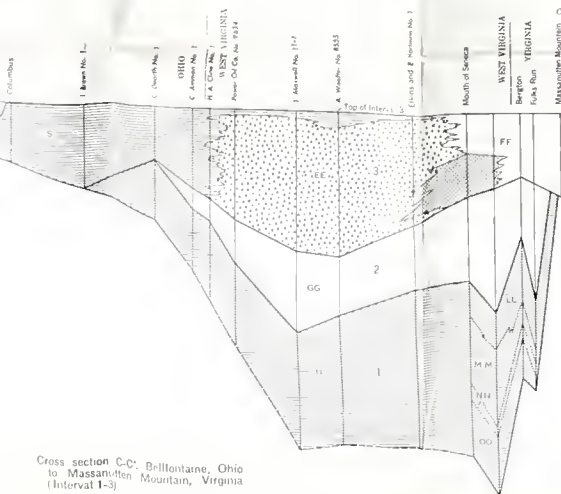
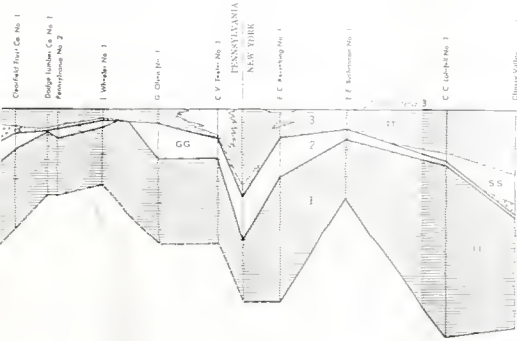
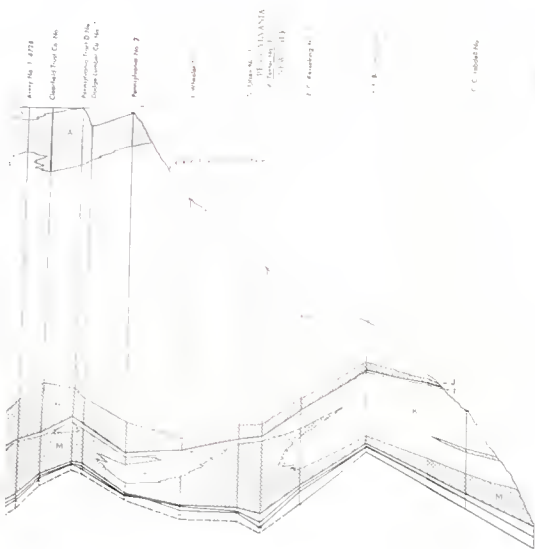


Cross section C-C', Bellefontaine, Ohio to Massanut Mountain, Virginia.  
(Interval 1-5)

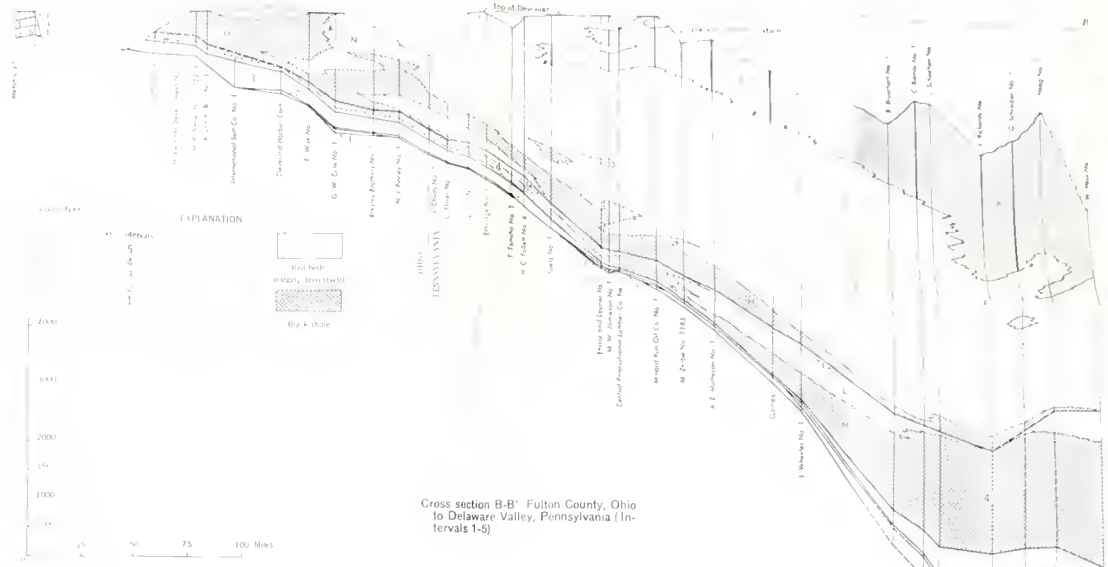


Cross section C-C', Bellefontaine, Ohio to Massanut Mountain, Virginia.  
(Interval 1-3)

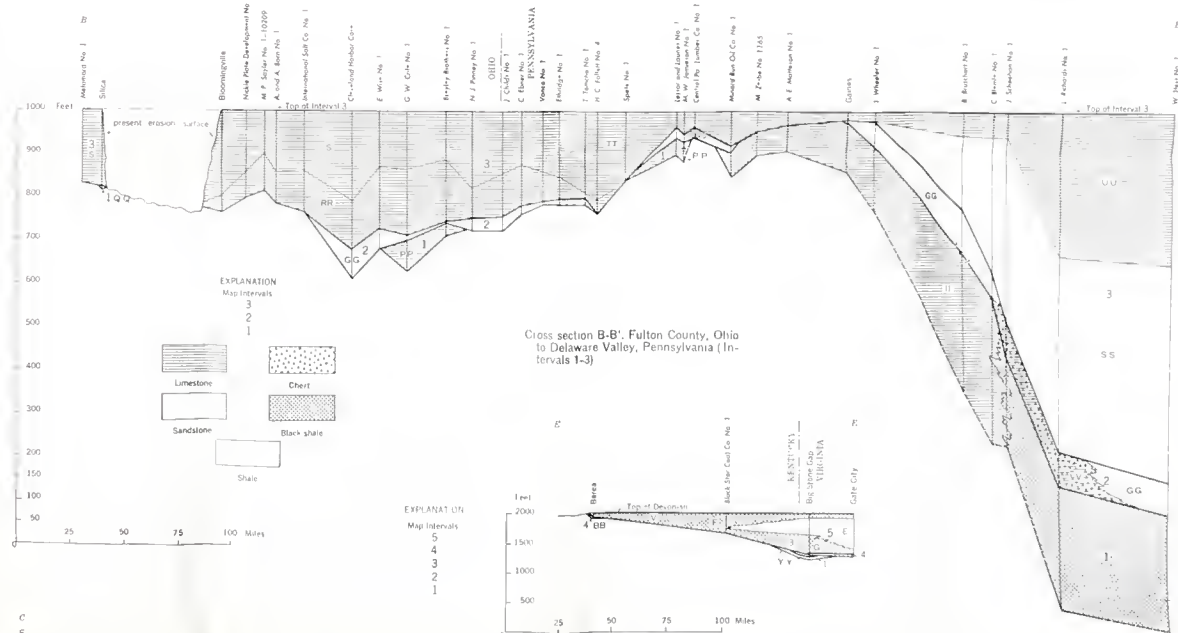




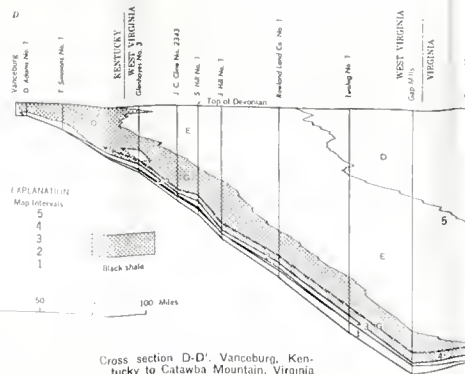
Cross section C-C': Brilliant, Ohio to Massanutten Mountain, Virginia (Interval 1-3)



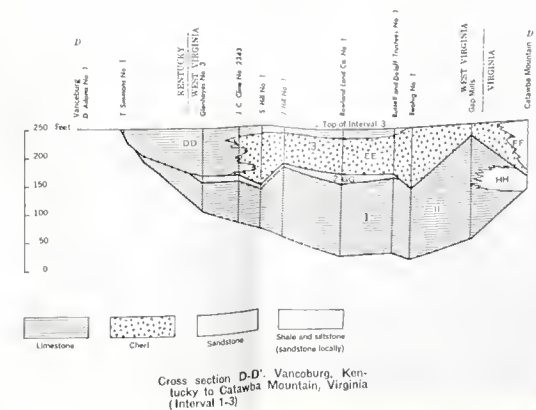
Cross section D-D': Vanceburg, Kentucky to Catawba Mountain, Virginia (Interval 1-5)



Cross section E-E': Bore, Kentucky to Gate City, Virginia (Interval 1-5)



Cross section F-F': Vanceburg, Kentucky to Catawba Mountain, Virginia (Interval 1-5)



Cross section G-G': Vanceburg, Kentucky to Catawba Mountain, Virginia (Interval 1-3)

# EXPLANATION

1. >80% limestone
2. 80 to 50% limestone sandstone >shale
3. 50 to 20% limestone sandstone >shale
4. >80% sandstone
5. >80% limestone
6. >80% sandstone
7. 80 to 50% sandstone
8. <20% limestone
9. <20% sandstone



10 to 50%

>50%

Limestone  
(includes chert)  
100%

100%

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1. >80% limestone
2. 80 to 50% limestone
3. 50 to 20% limestone
4. >80% sandstone
5. >80% limestone
6. >80% sandstone
7. 80 to 50% sandstone
8. <20% limestone
9. <20% sandstone

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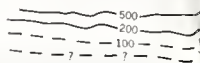
100%

100%

Scale

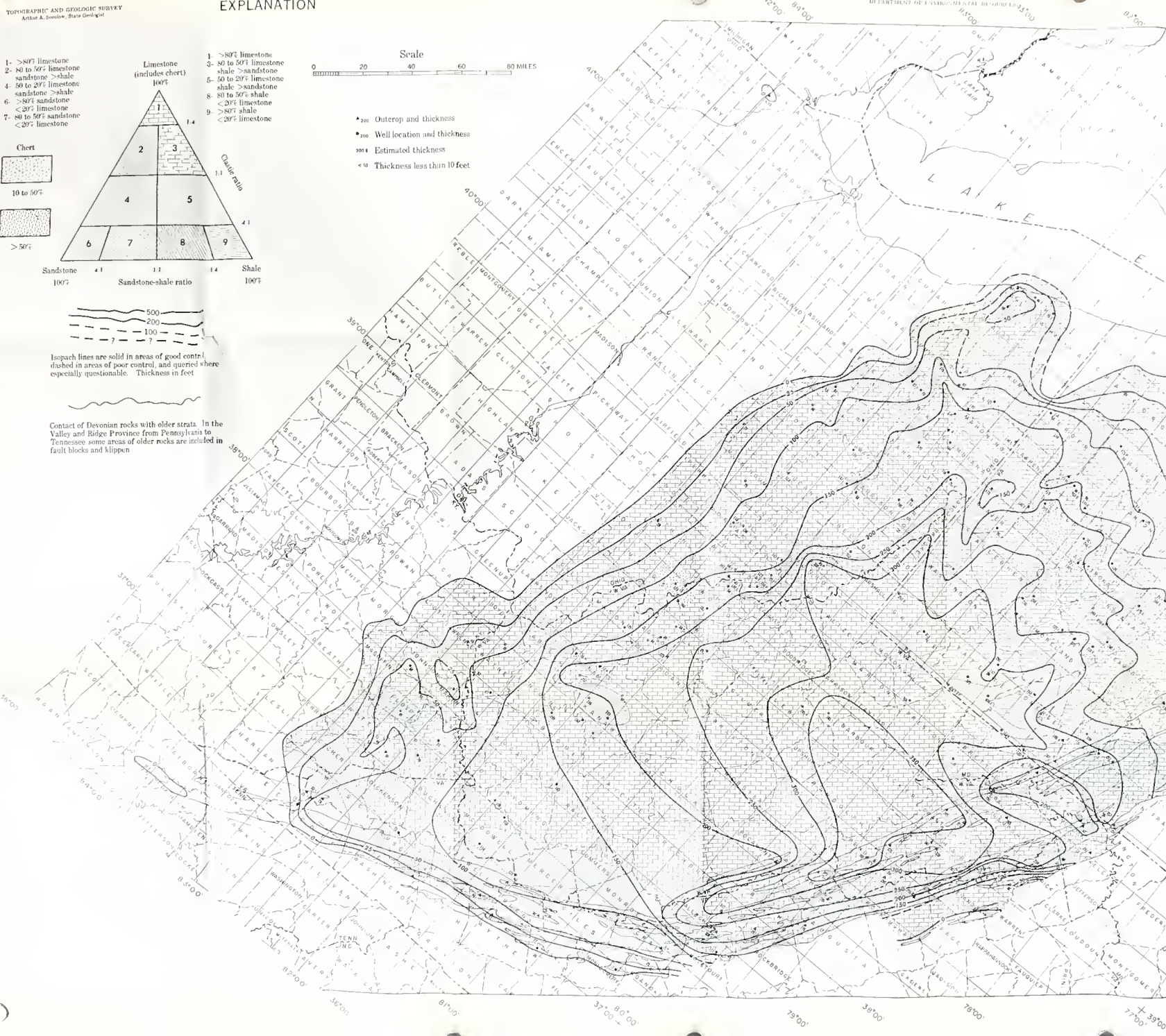
0 20 40 60 80 MILES

- \* 200 Outcrop and thickness
- \* 300 Well location and thickness
- \* 400 Estimated thickness
- \* 500 Thickness less than 10 feet



Isopach lines are solid in areas of good control, dashed in areas of poor control, and queried where especially questionable. Thickness in feet

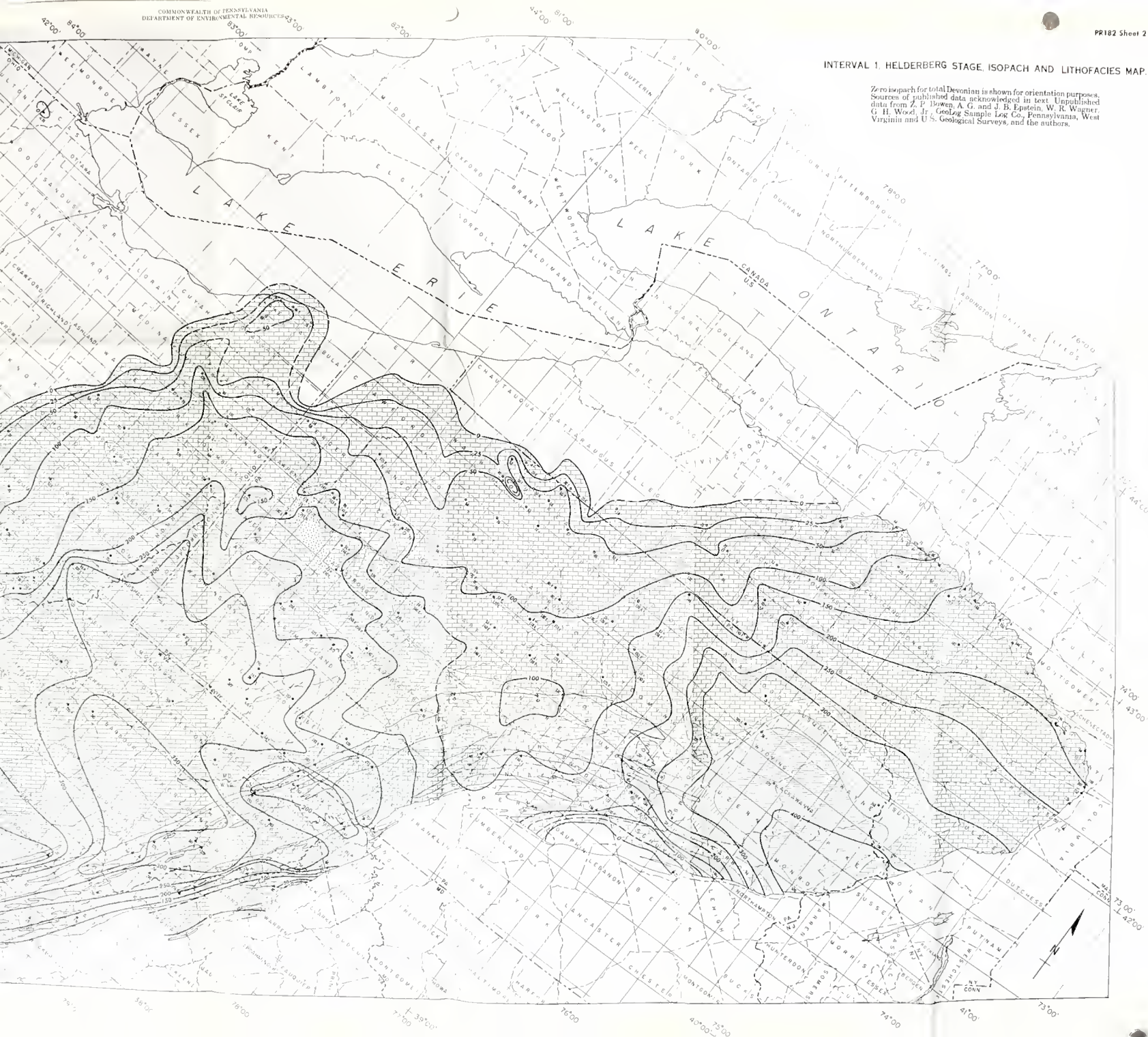
Contact of Devonian rocks with older strata. In the Valley and Ridge Province from Pennsylvania to Tennessee some areas of older rocks are included in fault blocks and klippen





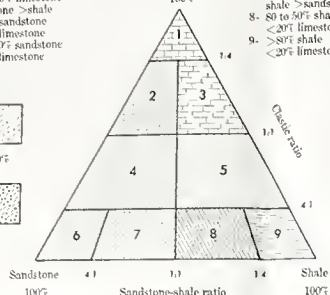
INTERVAL 1. HELDERBERG STAGE, ISOPACH AND LITHOFACIES MAP.

Zero isopach for total Devonian is shown for orientation purposes.  
Sources of published data acknowledged in text. Unpublished data from Z. P. Bowen, A. G. and J. B. Epstein, W. R. Wagner, G. H. Wood, Jr., Geolog. Sample Log Co., Pennsylvania, West Virginia and U.S. Geological Surveys, and the authors.

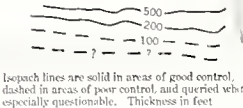


# EXPLANATION

1. >80% limestone
2. 80 to 50% limestone
3. 50 to 20% limestone
4. 20% limestone
5. >80% sandstone
6. 80 to 50% sandstone
7. 50 to 20% sandstone
8. 20% sandstone
9. <20% sandstone
10. <20% limestone
11. <20% sandstone

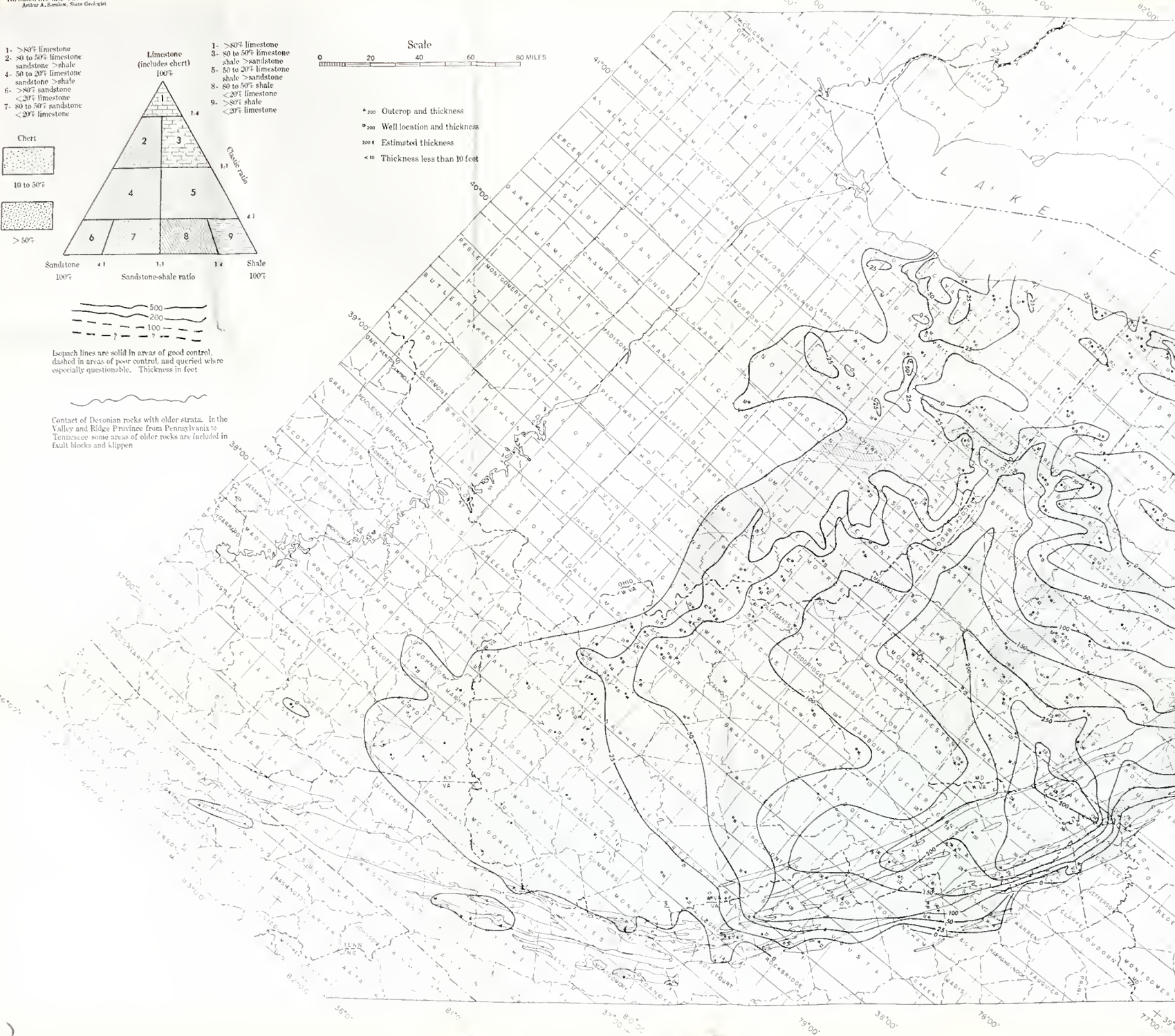


- \* 200 Outcrop and thickness
- \* 200 Well location and thickness
- \* 200 Estimated thickness
- \* 10 Thickness less than 10 feet



Isobath lines are solid in areas of good control, dashed in areas of poor control, and queried where especially questionable. Thickness in feet

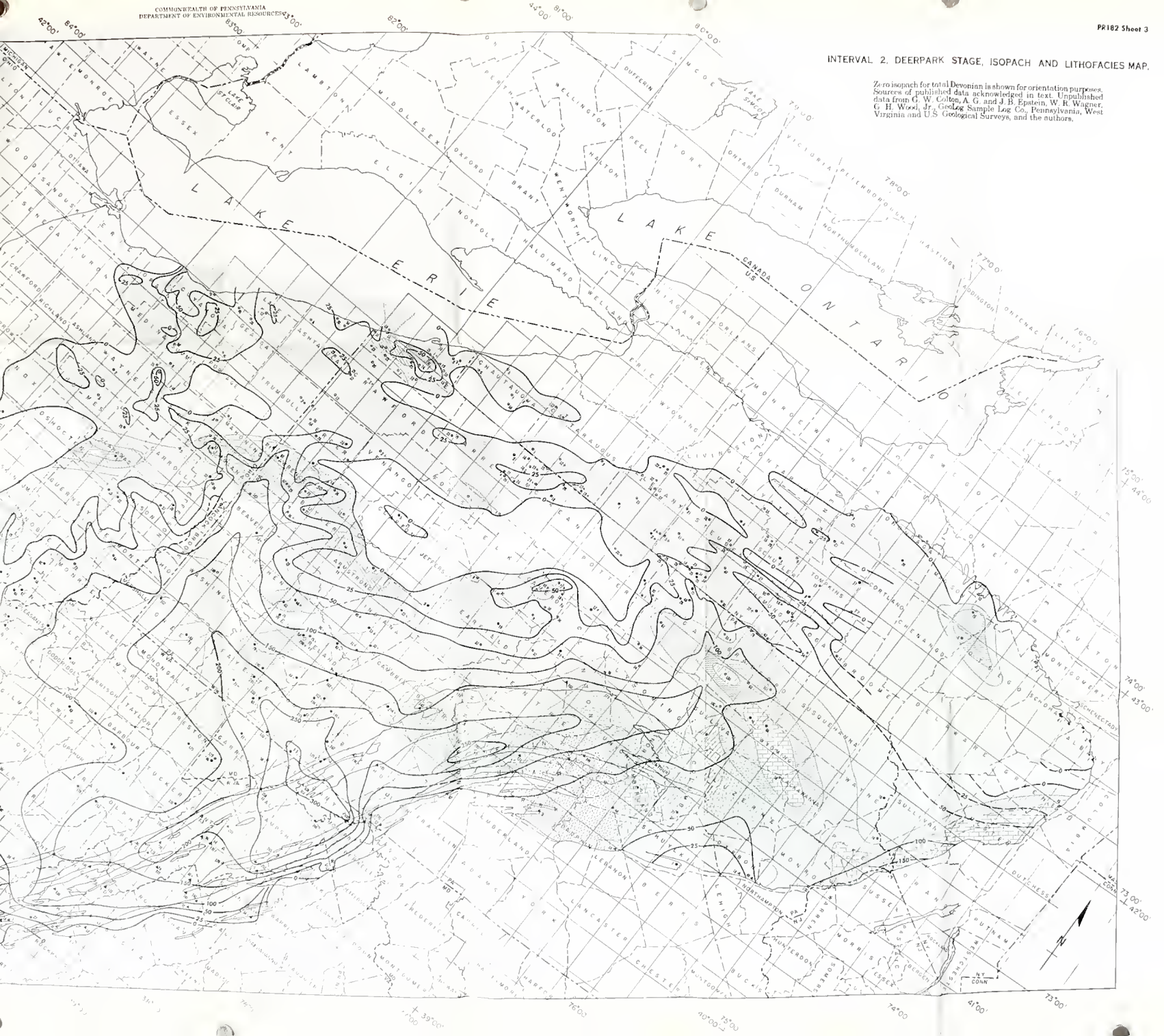
Contact of Devonian rocks with older strata. In the Valley and Ridge Provinces from Pennsylvania to Tennessee some areas of older rocks are included in fault blocks and klippen





INTERVAL 2. DEERPARK STAGE, ISOPACH AND LITHOFACIES MAP.

Zero isopach for total Devonian is shown for orientation purposes.  
Sources of published data acknowledged in text. Unpublished data from G. W. Colten, A. G. and J. B. Epstein, W. R. Wagner, G. H. Wood, Jr., Geologic Sample Log Co., Pennsylvania, West Virginia and U.S. Geological Surveys, and the authors.





# EXPLANATION

1. >80% limestone
2. 80 to 50% limestone
3. 50 to 20% limestone
4. 20% limestone
5. >80% sandstone
6. 80 to 50% sandstone
7. 50 to 20% sandstone
8. <20% limestone
9. <20% sandstone

Limestone  
(includes chert)

1. >80% limestone
2. 80 to 50% limestone
3. 50 to 20% limestone
4. 20% limestone
5. >80% sandstone
6. 80 to 50% sandstone
7. 50 to 20% sandstone
8. <20% limestone
9. <20% sandstone



- \* 200 Outcrop and thickness
- 200 Well location and thickness
- 200+ Estimated thickness
- < 10 Thickness less than 10 feet

Chert

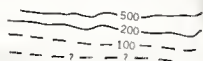


10 to 50%



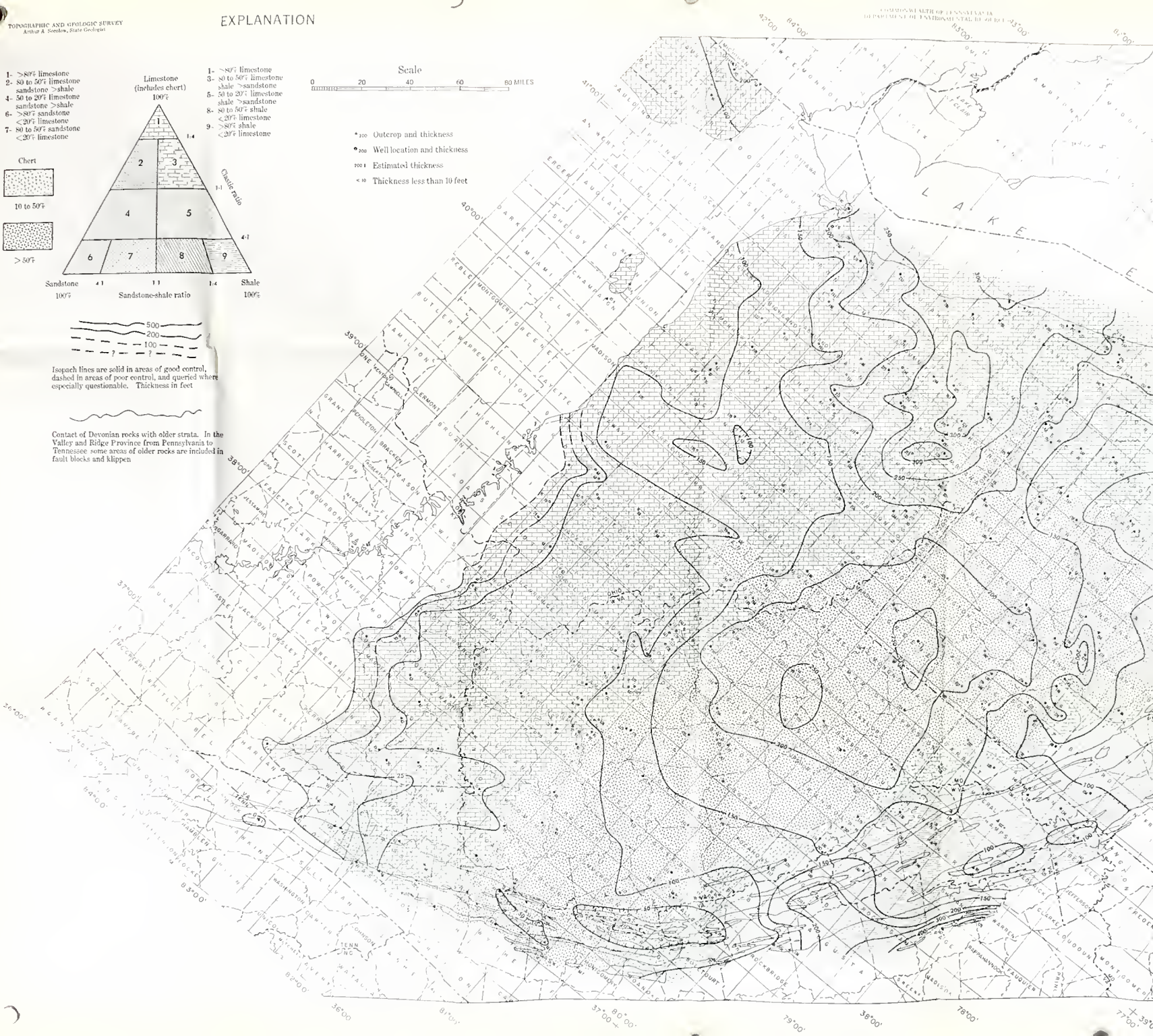
>50%

Sandstone 100% Sandstone:shale ratio 1:1 Shale 100%



Isotach lines are solid in areas of good control, dashed in areas of poor control, and queried where especially questionable. Thickness in feet

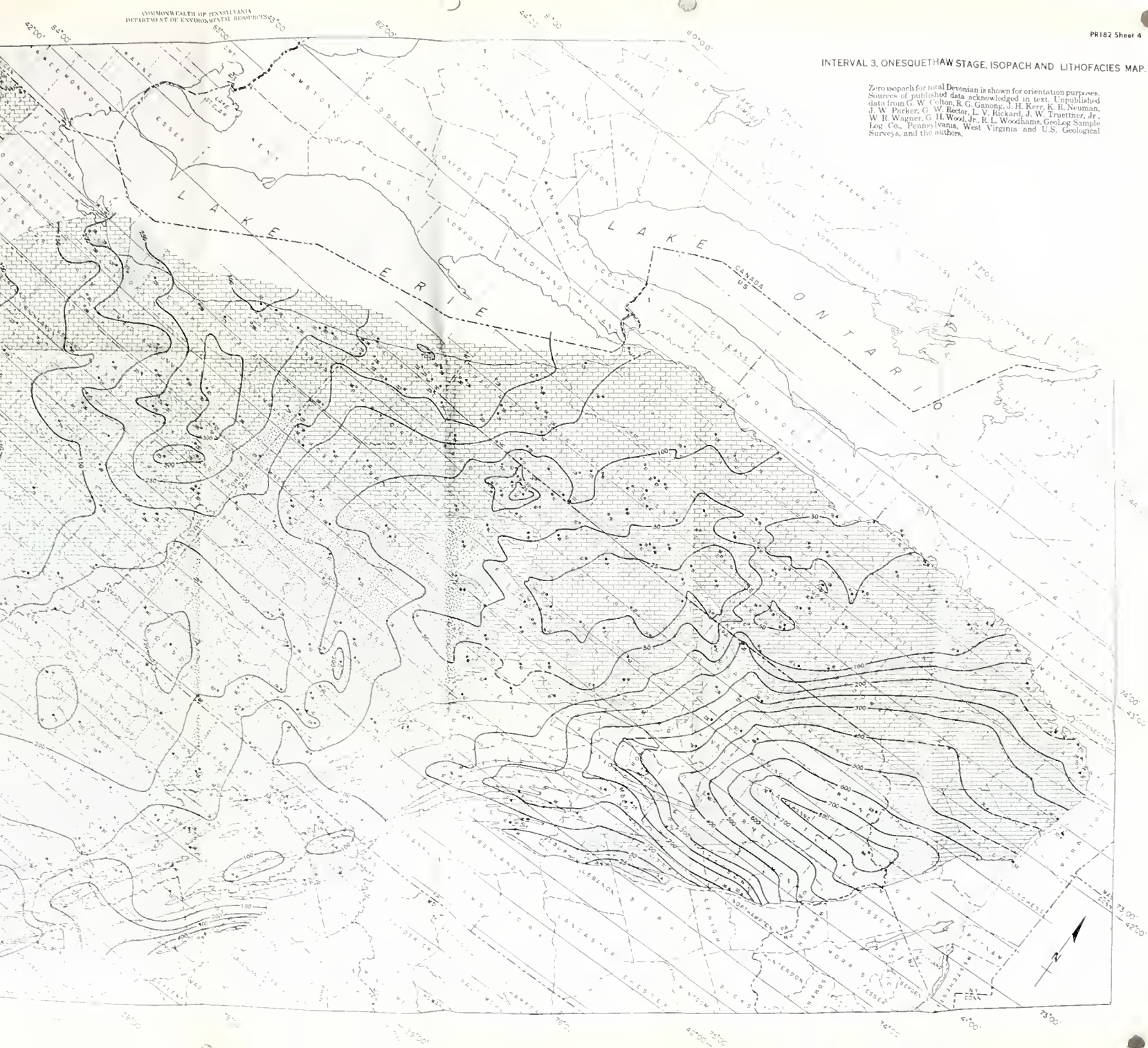
Contact of Devonian rocks with older strata. In the Valley and Ridge Province from Pennsylvania to Tennessee some areas of older rocks are included in fault blocks and klippen





INTERVAL 3, ONESQUETHAW STAGE, ISOPACH AND LITHOFACIES MAP.

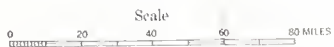
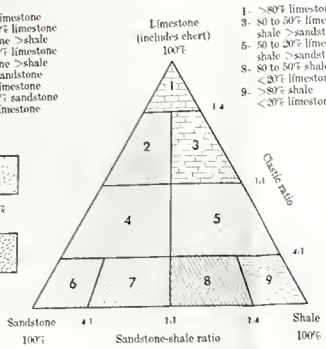
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Sources of published data acknowledged in text. Unpublished data from G. W. Colton, R. G. Ganong, J. H. Kerr, K. R. Neuman, J. W. Parker, G. W. Rector, L. V. Rickard, J. W. Trustinger, Jr., W. R. Wagner, G. H. Wood, Jr., E. L. Woodhams, Geology Sample Log Co., Pennsylvania, West Virginia and U.S. Geological Surveys, and the authors.



# EXPLANATION

COMMONWEALTH OF KENTUCKY  
DEPARTMENT OF ENVIRONMENTAL RESOURCES

1. >80% limestone
2. 80 to 50% limestone sandstone > shale
4. 50 to 20% limestone sandstone > shale
6. >80% sandstone
7. 80 to 50% sandstone
8. >80% limestone
9. 80 to 50% limestone
10. >80% sandstone
11. 80 to 50% sandstone

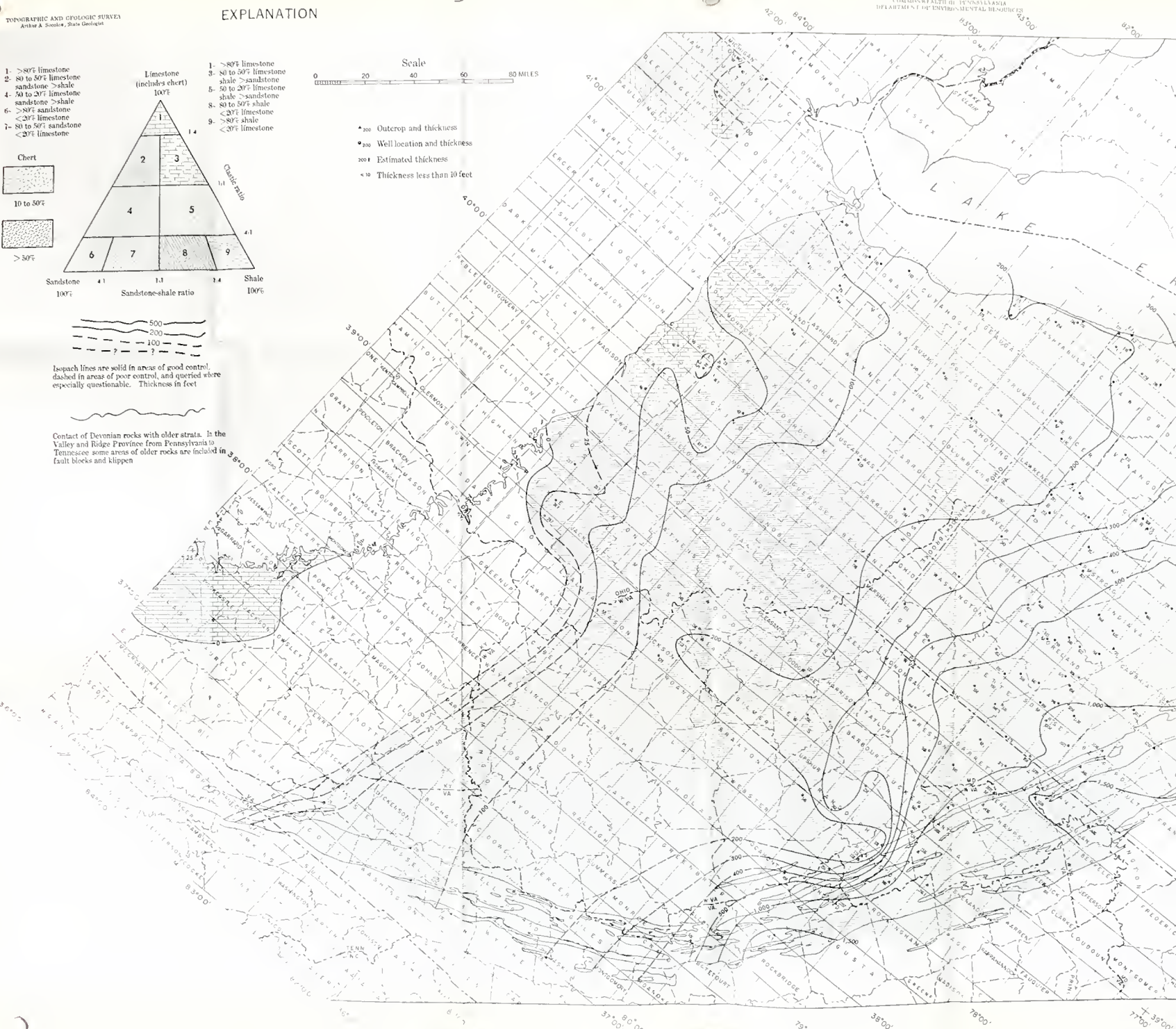


- 200 Outcrop and thickness
- 200 Well location and thickness
- 200 Estimated thickness
- 10 Thickness less than 10 feet

Isopach lines are solid in areas of good control, dashed in areas of poor control, and queried where especially questionable. Thickness in feet

500  
200  
100  
?

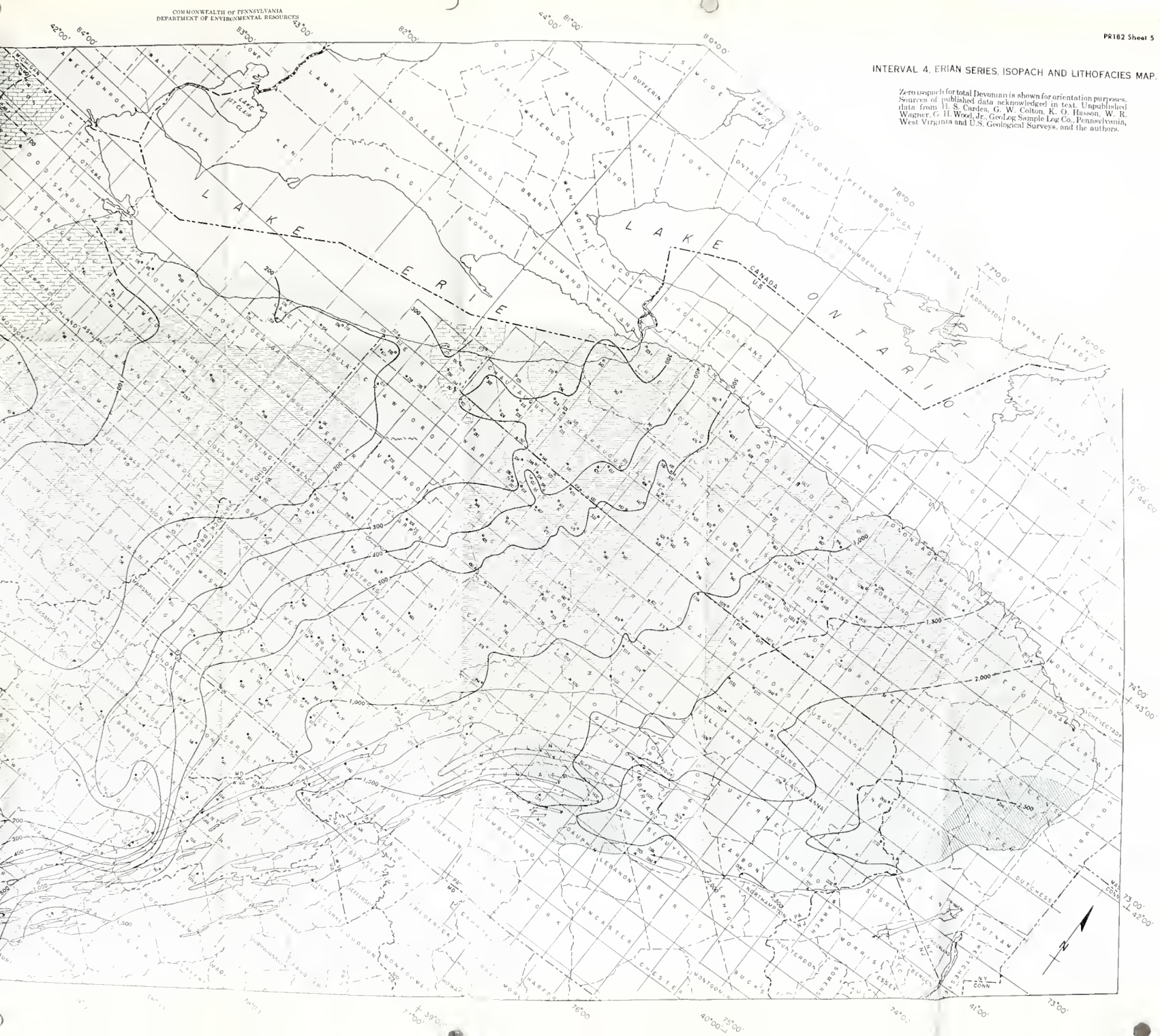
Contact of Devonian rocks with older strata. In the Valley and Ridge Province from Pennsylvania to Tennessee some areas of older rocks are included in fault blocks and klippen



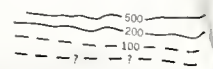
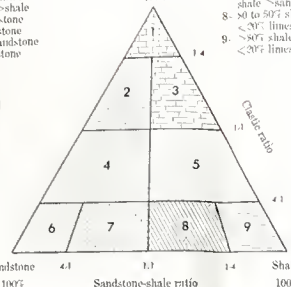


## INTERVAL 4. ERIAN SERIES, ISOPACH AND LITHOFACIES MAP.

Zero isopach for total Devonian is shown for orientation purposes. Sources of published data acknowledged in text. Unpublished data from H. S. Girdler, G. W. Colton, K. O. Hinson, W. R. Wagner, G. H. Wood, Jr., GeoLog Sample Log Co., Pennsylvania, West Virginia and U.S. Geological Surveys, and the authors.



1. >80% limestone  
2. 80 to 50% limestone  
3. sandstone > shale  
4. 50 to 20% limestone  
5. sandstone > shale  
6. <20% limestone  
7. <20% sandstone  
8. <20% limestone  
9. <20% sandstone  
10. <20% limestone

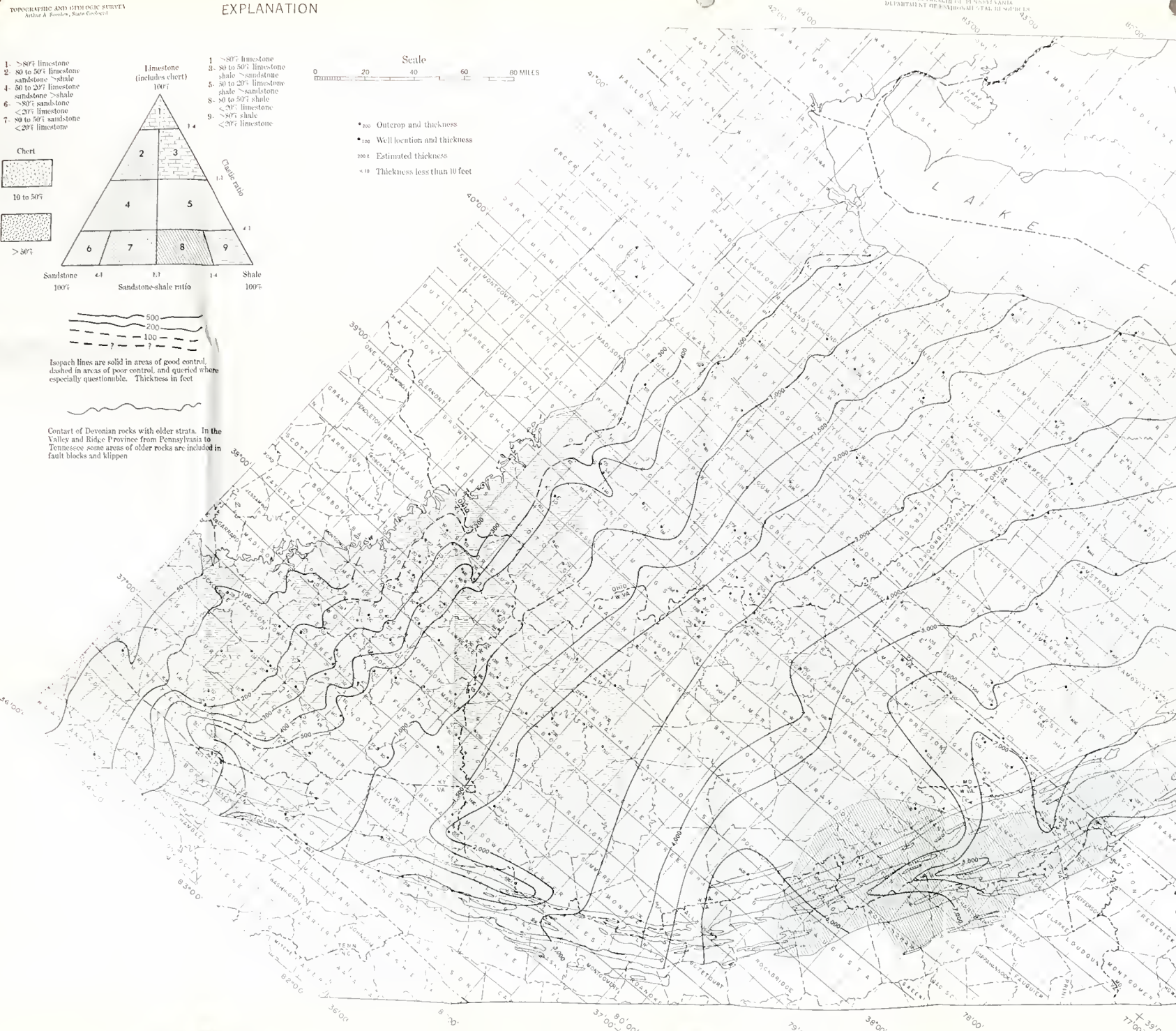


Isoch lines are solid in areas of good control, dashed in areas of poor control, and queried where especially questionable. Thickness in feet

Contact of Devonian rocks with older strata. In the Valley and Ridge Province from Pennsylvania to Tennessee some areas of older rocks are included in fault blocks and klippen



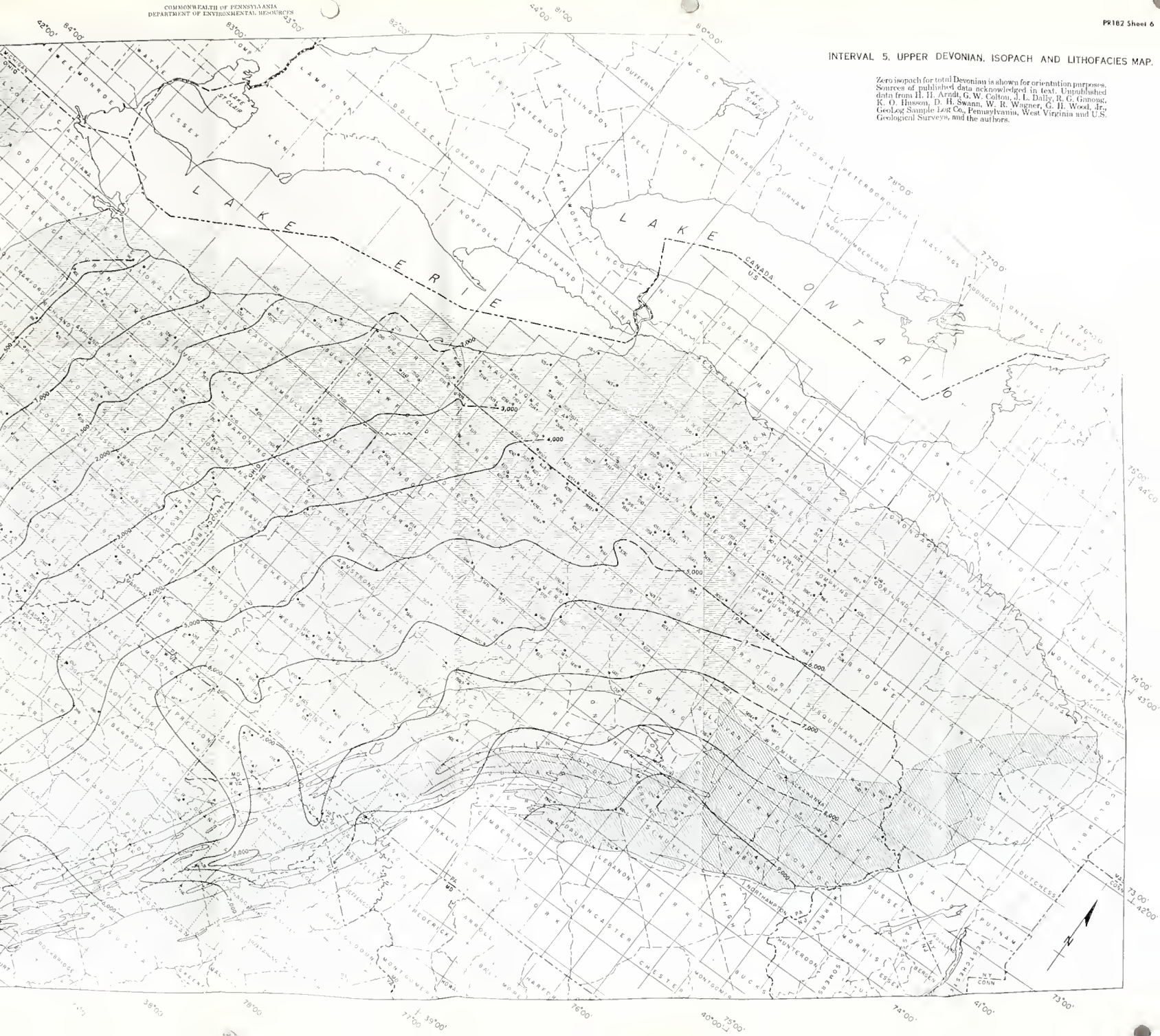
- 280 Outcrop and thickness
- 180 Well location and thickness
- 280 Estimated thickness
- 10 Thickness less than 10 feet



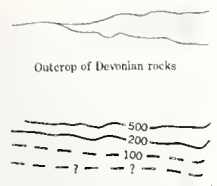


## INTERVAL 5. UPPER DEVONIAN, ISOPACH AND LITHOFACIES MAP.

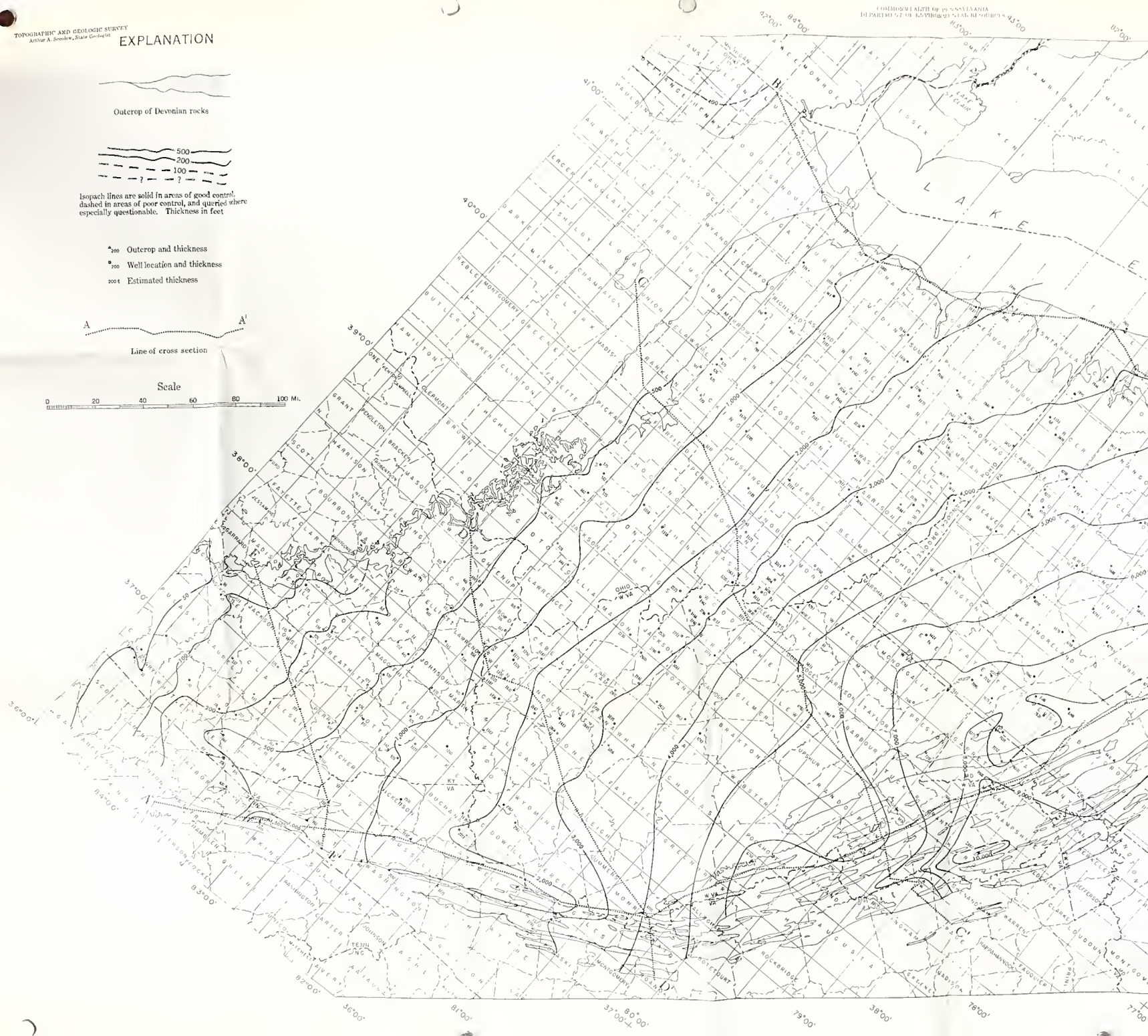
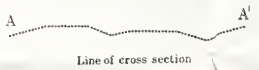
Zero isopach for total Devonian is shown for orientation purposes.  
Sources of published data acknowledged in text. Unpublished data from H. H. Arndt, G. W. Colton, J. L. Dally, R. G. Gimmon, K. O. Husson, D. H. Swann, W. R. Wagner, G. H. Wood, Jr., Geologic Sample Log Co., Pennsylvania, West Virginia and U.S. Geological Surveys, and the authors.



EXPLANATION



- 200 Outcrop and thickness
- 200 Well location and thickness
- 200 Estimated thickness





TOTAL DEVONIAN ISOPACH MAP.

Outcrop shown by line where too narrow for pattern.

